

Appl. No. 09/888,206

Reply to Office action of Aug. 23, 2004

REMARKS

Claims 1-46 are currently pending in the application. Applicant has canceled claims 1-5, 15, and 20, amended claims 6, 8, 9, 10, 11, 17, 21, 23, 26, 28, 32, 37, 38, 39, and 41 and added new claims 47-64. Applicant requests reconsideration of the application in light of the following remarks.

Rejections under 35 U.S.C. § 112

Claims 6-10, 21-25 and 37 were rejected by the Examiner under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 6-10, the Examiner stated that it was not clear what the recitation of "a magnitude of a pointing component" refers, and it was unclear how this recitation is distinguished from the recitation of a "magnitude of said vertical component". In response, applicant has amended claim 6 to recite that magnitude in question is the "magnitude of a pointing component of said force". As described in applicant's specification, selection can be indicated in a pointing device based on a comparison of the force in a vertical direction (e.g. z-direction) with the force in non-vertical, pointing direction (e.g., x- and y-directions). Thus, the vertical component and pointing component of said force are different components of the force applied to the pointing device. See applicant's specification at page 16, paragraphs 3 and 4. Applicant thus submits that the claim 6, as amended, particularly points out and distinctly claims the subject matter which applicant regards as the invention.

With regard to claim 8, the Examiner stated that there is no clear antecedent basis for "the magnitude of the pointing component". In response, applicant has amended claim 8 to recite "a magnitude of a pointing component of said force" and "the vertical component of said force". Applicant submits that amended 8 thus has proper antecedent basis for all terms.

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With regard to claim 10, the Examiner stated that at lines 4-5 and 8-9 the recited languages are vague and indefinite because they contradict each other. Specifically, the Examiner stated that at lines 4-5 the claim calls for "indicating the force is decreasing" while at lines 8-9 the claim calls for "indicating a low cursor motion speed if the vertical component of the force is increasing". In response, applicant has amended the claims to clarify that the steps in question are conditional. That is, the step of "indicating a low cursor motion speed" occurs "if the vertical component of the force is determined to be decreasing" and the step of "indicating a low cursor motion speed" occurs "if the vertical component of the force is determined to be increasing and exceeding a magnitude of a pointing component of the force". Thus, there is no contradiction, as each step occurs when a condition is determined to be met in the previous step. Applicant thus submits that the claim 10, as amended, particularly points out and distinctly claims the subject matter which applicant regards as the invention.

With regard to claim 21, the Examiner stated that the recitation of "a magnitude of at least one other force" is vague and indefinite because it is not clear to what it refers. Applicant has amended claim 21 to clarify the limitation as a "pointing force". Thus, amended claim 21 recites "a magnitude of a pointing force on said pointing device". Thus, the amended claim 21 now uses the same language found in other claims. Applicant thus submits that the "pointing force" is properly clear, and that amended claim 21 particularly points out and distinctly claims the subject matter which applicant regards as the invention.

With regard to claim 37, the Examiner stated that claim 37 is incomplete because the preamble specifies "a method for indicating a movement and selection from a pointing device" However, the Examiner stated that all the recited steps in the claim relate to movement indication of the pointing device and no steps are recited as to the selection of the pointing device. In response, applicant has amended claim 37 to remove "and selection" from the preamble. Applicant submits that the claim 37, as amended, particularly points out and distinctly claims the subject matter which applicant regards as the invention.

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In conclusion, applicant respectfully requests that the rejection of claims 6-10, 21-25 and 37 under 35 U.S.C. § 112 be withdrawn.

Applicant also notes that claims 26, 28, 32 and 38 have been amended to make minor corrections in wording.

Indication of Allowable Subject Matter

The Examiner allowed claims 22-36 and 38-39. The Examiner further stated that claims 7 and 22-25 would be allowable if rewritten to overcome the rejections under 35 U.S.C. § 112, and rewritten in independent form, including all the limitations of the base claim and any intervening claims. Likewise, the Examiner stated that claims 15 and 42-46 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Finally, the Examiner stated that claims 6, 8-10 and 21 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112. As those rejections have been addressed above, applicant submits that claims 6, 8-10 and 21 are also allowable.

Rejections under 35 U.S.C. § 102

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Claims 1-5, 11-14, 16-20, 37 and 40-41 were rejected under 35 U.S.C. § 102(b) as being anticipated by Leung (U.S. Patent No. 6,388,655, hereinafter "Leung"). Applicant respectfully traverses this rejection and request reconsideration of the claims. The Examiner stated that Leung discloses a method and apparatus for indicating cursor motion from a force applied to a pointing device according to a variable gain transfer function. Applicant respectfully disagrees,

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and submits that the Examiner has misconstrued the teachings of the Leung reference. First, applicant submits that Leung does not teach a dual-gain transfer function. Instead, Leung teaches a cursor control system where a user is able to modulate the amount of gain my selectively varying the force applied. Thus, any change in the operation of the cursor is a result of the user varying the applied force, and not the result of a dual-gain transfer function.

In the above amendments, applicants have cancelled claims 1-5 in favor of new claims 47-61 that include similar limitations, and are further distinguished over the cited references by further defining the recited method.

Specifically, new independent claim 47 recites a method of indicating cursor motion applied to a pointing device that uses a "dual-gain transfer function comprising an S-shaped integral blend". Applicant submits that no such method or dual-gain transfer is disclosed in the cited reference, and that new claim 47 is thus patentably distinct over the cited references.

Likewise, new independent claim 50 recites a method of indicating cursor motion applied to a pointing device that uses a "dual-gain transfer function comprising an S-shaped multiplicative blend". Applicant submits that no such method or dual-gain transfer is disclosed in the cited reference, and that new claim 50 is thus patentably distinct over the cited references.

Likewise, new independent claim 53 recites a method of indicating cursor motion applied to a pointing device that uses a "dual-gain transfer function consisting of a first linear segment having a first derivative and a second linear segment having a second derivative larger than the first derivative, and wherein said first linear segment and said second linear segment meet at a transition point". Applicant submits that no such method or dual-gain transfer is disclosed in the cited reference, and that new claim 53 is thus patentably distinct over the cited references

Likewise, new independent claim 54 recites a method of indicating cursor motion applied to a pointing device that uses a "first transfer function" and a "second transfer function".

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Specifically, where "indicated cursor motion is related to a pointing component of the applied force according to a first transfer function when a magnitude of the pointing component is substantially non-decreasing, and according to a second transfer function when the magnitude of the pointing component is decreasing".

Likewise, new independent claim 60 recites a method of indicating cursor motion applied to a pointing device that uses a "dual-gain transfer function comprising a blend of a first blending function, said dual-gain transfer function having a smoothness such that a first derivative of said dual gain transfer function is continuous and monotonically increasing and a second derivative of said dual gain transfer function is continuous." Applicant submits that no such method or dual-gain transfer is disclosed in the cited reference, and that new claim 60 is thus patentably distinct over the cited references.

Finally, new independent claim 61 recites a method of indicating cursor motion applied to a pointing device that uses a "said dual-gain transfer function having a continuous first derivative and wherein said first derivative is non-increasing at a point of maximum input force." Applicant submits that no such method or dual-gain transfer is disclosed in the cited reference, and that new claim 61 is thus patentably distinct over the cited references.

Furthermore, as claims 48 and 49 depend from and include all the limitations of new independent claim 47, and as claims 51 and 52 depend from, and include all the limitations of new independent claim 50, and as claims 55, 56, 57, 58 and 59 depend from and include all the limitations of amended independent claim 54, they are also submitted to be patentably distinct over the cited references. Furthermore, these dependent claims include many additional limitations not found in the cited references.

With regard to claims 11-15, applicant has amended independent claim 11 to include the limitations of claim 15. As claims 15 was stated by the Examiner to allowable, applicant submits that amended independent claim 11 is now allowable over the cited references.

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Furthermore, as claims 12-14 and 39 depend from, and include all the limitations of amended independent claim 11, they are also submitted to be allowable.

With regard to claim 16, applicant again disagrees with the Examiner's rejection and have amended claim 16 to further distinguish over the cited reference. As noted above, Leung merely teaches a cursor control system where a user is able to modulate the amount of gain my selectively varying the force applied. Thus, Leung does not teach a method where a first gain is applied or a fraction of second gain is applied and "wherein said fraction of a second gain is a monotonically increasing function of a magnitude of said force signal".

Furthermore, Leung clearly fails to teach a method where "said second gain is applied only when said magnitude of said force signal is substantially non-decreasing", as now recited in amended independent claim 16. For all these reasons applicant submits that amended independent claim 16 is patentably distinct over the cited reference. Furthermore, as claims 17-19 depend from, and include all the limitations of amended independent claim 16, they are also submitted to be patentably distinct.

With regard to claim 37, applicant again disagrees with the Examiner's rejection and submits that independent claim 37 is patentably distinct over the cited reference. Furthermore, applicant has amended claim 37 to further clarify the distinction. Again, Leung merely teaches a cursor control system where a user is able to modulate the amount of gain my selectively varying the force applied. Thus, Leung clearly fails to teach a method including the step of "applying, only if a magnitude of the pointing component is non-decreasing, a fractional part of a second gain, which is higher than said first gain, to said pointing component wherein said fractional part of the second gain is based on a smoothly increasing monotonic function of said magnitude of the pointing component", as now recited in amended independent claim 37. For all these reasons applicant submits that amended independent claim 37 is patentably distinct over the cited reference.

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With regard to claims 40-41, applicant respectfully disagrees with the rejections and submits that claims 40-41 are patentably distinct over the cited references. Specifically, applicant notes that claims 40-41 are for a method of "determining an amount of pointer movement from a pointer, from a force applied to a pointing device", and recite steps of "assigning a minimum resolvable force to a fraction of a minimum amount of pointer movement" and accumulating a plurality of fractions of the minimum amount of pointer movement . . ." As described in applicant's specification at page 15, accumulating fractions of minimum pointer movement (e.g., fractional mickeys) can be used to reduce the effects of input noise and improve pointer performance for relatively small inputs. Applicant notes that the Examiner has failed to address the use of a "fraction of a minimum amount of pointer movement" or the accumulation of "a plurality of fractions of the minimum amount of pointer movement" as recited in claim 40. Furthermore, as claims 41-46, depend from, and includes all the limitations of claim 40, they are also submitted to be patentably distinct and allowable. With regard to claim 42, applicants note that the Examiner has failed also failed to address the limitation of "accumulating a plurality of fractions of the minimum amount of pointer movement until a sum of the plurality of fractions of the minimum amount of pointer movement totals at least an integral number". Again, applicants submit that the Leung reference fails to teach such a limitation.

Applicants have also added new claims 62-64. Applicants submit that each of these new claims is also patentably distinct over the cited references. With respect to claim 62, applicants submit that Leung fails to teach a method where a "difference between a magnitude of said vertical component of said force and a magnitude of a pointing component of said force over said period difference" is accumulated, and selection is indicated responsive to said accumulation when the accumulated difference exceeds a threshold.

With respect to claim 63, applicant submits that the Leung fails to teach a method of indicating cursor motion where the cursor motion is related to a "pointing component of the force via a dual-gain transfer function if said vertical component of the force is not decreasing and if said vertical component of the force is not exceeding the magnitude of a pointing

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component of the force", or where cursor motion is related to a "pointing component of the force via a relatively lower gain transfer function if said vertical component of the force is decreasing or if said vertical component of the force is not exceeding the magnitude of a pointing component".

Finally, with respect to new claim 64, Leung fails to teach a method of indicating selection where a selection is determined based on a recognized period of increasing selection component in which an accumulation of selection component exceeds an accumulation of pointing component, or where a current selection is maintained if the selection component does not decrease faster than a predetermined rate, and the selection component does not fall below a first minimum threshold.

In summary, and in view of the amendments herein, none of the references cited by the Examiner nor any other known prior art, either alone or in combination, disclose the unique combination of features disclosed in applicant's claims presently on file. For this reason, allowance of all of applicant's claims is respectfully solicited.

Regarding Doctrine of Equivalents

Applicant hereby declares that any amendments herein that are not specifically made for the purpose of patentability are made for other purposes, such as clarification, and that no such changes shall be construed as limiting the scope of the claims or the application of the Doctrine of Equivalents.

CONCLUSION

The amendments herein cancelled 2 independent and 5 dependent claims and added 9 new independent and 9 new dependent claims, resulting in fees due of \$688.00. The Examiner is hereby authorized to charge Ingrassia Fisher & Lorenz Deposit Account No. 50-2091 for said fees.

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If any fees, including extension of time fees or additional claims fees, are due as a result of this response, please charge Ingrassia Fisher & Lorenz Deposit Account No. 50-2091. This authorization is intended to act as a constructive petition for an extension of time, should an extension of time be needed as a result of this response. The Examiner is invited to telephone the undersigned if this would in any way advance the prosecution of this case.

Respectfully submitted,

INGRASSIA FISHER & LORENZ

Dated: 22 Nov, 2004By: 

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